

CLAIMS

1. Vitrification furnace comprising a crucible (1, 2, 3) and heating means comprising at least one plasma torch (5) on an upper part of the crucible and at least one inductor winding (4), outside the crucible, characterised in that the inductor winding is arranged under the crucible.

2. Vitrification furnace according to claim 1, characterised in that the crucible comprises a sole plate (2) made of refractory material and a shell (1) placed upright on the sole plate (2), the shell (1) having a continuous structure around the circumference and being made of metallic material.

3. Vitrification furnace according to claim 1 or 2, characterised in that the heating means comprise a second plasma torch, the plasma torches being electrically polarised to create an arc between each other.

4. Vitrification furnace according to claim 3, characterised in that the torches are mobile in the crucible.

5. Vitrification furnace according to claim 4, characterised in that the torches are free to slide vertically.

6. Vitrification furnace according to any one of claims 1 to 5, characterised in that the torch is laterally offset from the inductor winding.

5 7. Vitrification process using a furnace according to any one of the previous claims, characterised in that the plasma is an oxygen plasma, creating an oxidising atmosphere in the furnace.

10 8. Vitrification process according to claim 7, characterised in that the oxidising atmosphere prevents formation of a metallic phase in a furnace load.

15 9. Vitrification process according to any one of the previous claims, characterised in that it includes a starting step with exclusive heating by the torch, and continuous operation with simultaneous heating by the torch and the inductor winding.

20 10. Vitrification process according to claim 7, with a furnace according to claim 5, characterised in that the torches are brought close to the furnace contents for the continuous operation step.